

Case Report: An Outbreak of *Salmonella newport* in a Beef Cow Herd Associated with the Presence of BVD Persistently Infected (BVD-PI) Animals

R.F. Daly, DVM; R.D. Neiger, DVM, PhD

Veterinary Science Department, South Dakota State University, Brookings, SD

Introduction

Salmonella infections are significant causes of illness in animals and humans. Immunosuppressive factors such as environmental stressors and infectious agents, such as BVD virus, may contribute to the expression of salmonellosis. This report describes an outbreak of salmonellosis in a beef herd associated with the presence of BVD-PI animals.

Materials and Methods

In Spring 2006, an outbreak of *Salmonella newport* occurred in a South Dakota beef herd. Severe illness (diarrhea, dehydration, weakness, and death) occurred in only one of three cow groups. Thirty-two of 407 cows (7.9%) died in the affected group, while no cows died in either of the other two groups. Calf mortality was also significantly higher in this group relative to the others (14.1% vs. 4.1% and 3.0%). Fecal and environmental

samples, and ear notches from dead calves were obtained during a field visit.

Results

Salmonella newport was cultured from cows in all three groups. One dead calf from the affected group was found to be BVD-PI on antigen-capture ELISA. BVD-PI testing was then performed on all calves. A significantly higher proportion of BVD-PI calves was found in the salmonellosis-affected group compared to calves in the other two groups (2.7% vs. 0.3%).

Significance

This report describes for the first time an outbreak of *Salmonella Newport* in a cow herd, associated with the presence of BVD-PI animals. Exposure to BVD virus should be considered when outbreaks of salmonellosis or other infectious diseases occur in beef herds.